

3.0 ALTERNATIVES

3.1 FACTORS USED IN THE SELECTION OF ALTERNATIVES

3.1.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that could potentially avoid or minimize the impacts of a proposed project.

Both the NEPA and the State CEQA Guidelines emphasize the need for an evaluation of a range of alternatives. NEPA requires that Federal agencies rigorously explore and objectively evaluate all reasonable alternatives to a proposed action in order to provide a clear basis for choice among options by the decision-makers and the public (Title 40 CFR Part 15012.14). The State CEQA Guidelines (section 15126.6[d]) emphasize the selection of a reasonable range of feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision-makers.

Consistent with the CEQ and the CEQA requirements and Guidelines, the Agency Staffs considered a range of alternatives to the Project or Project location that: (1) could feasibly attain most of the basic Project objectives; and (2) would avoid or substantially lessen any of the significant impacts of the proposed Project.¹

3.1.2 Alternatives Screening Methodology

The stated objectives of the proposed Project are described in Section 1.1. The main objectives include providing transportation capacity of up to 2,932,000 Dthd (2,753 MMscfd) of LNG-source gas entering the continent in Baja California to delivery points in California and Arizona, and providing up to 110,000 Dthd (103 MMscfd) of LNG-source gas to the IID.

Alternatives to the proposed Project were identified and selected based on information from North Baja and other sources, and through analyses conducted by the EIS/EIR preparers. The screening process that was followed for each alternative consisted of three steps:

1. Defining alternatives to allow comparative evaluation.
2. Evaluating each alternative in the context of one or more of the following criteria:
 - the extent to which the alternative would accomplish most of the basic goals and objectives of the Project;
 - the extent to which the alternative would avoid or lessen one or more of the identified significant environmental impacts of the Project;
 - the potential feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, and consistency with applicable plans and regulatory limitations;

¹ The review of alternatives in this EIS/EIR does not include alternatives that cannot be reasonably ascertained or alternatives for which potential implementation is remote or speculative because a review of these types of alternatives is not required by Federal and State Guidelines.

- the appropriateness of the alternative in contributing to a “reasonable range” of alternatives necessary to permit a reasoned choice;
 - the requirement of the CEQ and the State CEQA Guidelines to consider a “No Project” alternative;
 - and the requirement of the State CEQA Guidelines to identify an “Environmentally Superior” alternative (section 15126.6[e]).
3. Determining the suitability of the proposed alternative for full analysis in the EIS/EIR. If the alternative was unsuitable, it was eliminated, with appropriate justification, from further consideration.

In the final phase of the screening analysis, the environmental advantages and disadvantages of the reasonable alternatives were carefully weighed with respect to potential for overall environmental advantage, technical feasibility, and consistency with Project and public objectives. The ability of an alternative to provide the proposed volumes in the same general time frame as the proposed Project was included in this consideration.

For the screening analysis, the technical and regulatory feasibility of various potential alternatives was assessed at a general level. At the screening stage, it is not possible to evaluate potential impacts of the alternatives or the proposed Project with absolute certainty. However, it is possible to identify elements of the proposed Project that are likely to be the sources of impact. The assessment of feasibility was directed toward reverse reason, that is, the Agency Staffs attempted to identify anything about the alternative that would be infeasible on technical or regulatory grounds. If during the screening analysis an alternative proved to be infeasible or clearly did not provide any environmental advantages compared to the proposed Project, it was eliminated from further consideration.

3.1.3 Summary of Screening Results

Several potential alternatives including the No Project Alternative, system alternatives, route alternatives, route variations, alternative delivery points, and aboveground facility site alternatives were evaluated using the screening criteria listed above. A number of these alternatives were eliminated because they did not provide any clear environmental advantage. Other alternatives were eliminated because they did not meet the stated Project objectives of transporting LNG-source gas from Baja California to U.S. delivery points, specifically to customers in southern California and the Southwest. The following sections discuss and analyze each of the alternatives evaluated in sufficient detail to explain why they were eliminated from further consideration or recommended by the Agency Staffs to be adopted as part of the proposed route.

3.2 ALTERNATIVES CONSIDERED

3.2.1 No Project Alternative

The actions triggering this environmental review were North Baja’s applications to the FERC for a Certificate and to the CSLC for an amendment to its permit to cross State lands. This environmental review will also satisfy the NEPA responsibilities of the BLM in considering North Baja’s application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands, including lands managed by the BOR and the FWS. The FERC, the CSLC, and the BLM have two courses of action in considering the proposed Project. They may: (1) deny the respective applications; or (2) approve the Project with or without conditions.

If the Project is denied, none of the potential environmental impacts (both positive and negative) identified in this EIS/EIR would occur. However, the objectives of the Project as described in Section 1.1 would not be met. Specifically, this means that North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the demand for natural gas in California and other southwestern U.S. markets.

To understand the potential effects of the No Project Alternative, it is important to understand the source and use of natural gas in California. As discussed in detail in Section 1.1, the State of California is the second largest natural gas consumer in the nation. In 2003, Californians consumed about 2.2 trillion cubic feet of gas. In-State production of natural gas satisfies only about 13 percent of Statewide demand (CEC 2005b). The remaining natural gas that is consumed in the State comes primarily from five major out-of-State production basins.

The demand for natural gas in California, as in the rest of the United States, is expanding, and gas producers across North America are struggling to keep pace with the growing demand. Production from most of the mature supply basins in North America has declined or only increased modestly since 1990. The amount of gas produced per well is also declining, and each well is being drained faster (CEC 2005a). The result is that domestic natural gas production is not projected to keep up with the growth in demand.

California's supply of natural gas is also affected by rising demand for natural gas in neighboring states. Forty-three new power plants have come online in Arizona since 2001. These plants are intermediate load and peaking power plants, which often ramp up quickly to meet changing electricity demand. This may take more natural gas from the pipeline system faster than expected. Under normal circumstances, this practice is not troublesome if the pipeline system can be balanced by taking gas out of storage. In the Phoenix area, however, the nearest storage is hundreds of miles away, and it is becoming increasingly common for pipeline pressure to drop during periods of high demand. If the gas pressure gets low enough, it could cause curtailments that could affect natural gas delivery into California (CEC 2005a).

Although it is speculative to predict the actions that could be taken by other suppliers or users of natural gas in the region as well as the resulting effects of those actions if the proposed Project applications are denied, southern Californian customers would likely have fewer and potentially more expensive options for obtaining natural gas supplies in the near future. This might lead to alternative proposals to develop natural gas delivery or storage infrastructure, reduced use of natural gas, and/or the use of other hydrocarbon-related sources of energy.

It is possible that the infrastructure currently supplying natural gas to the proposed market area could be developed in other ways unforeseen at this point. This might include constructing or expanding regional pipelines as well as LNG import and storage systems. Any construction or expansion work would result in specific environmental impacts that could be less than, similar to, or greater than those associated with the proposed Project. An analysis of the most reasonably foreseeable natural gas system alternatives has been included in Section 3.2.

Higher natural gas prices is another potential outcome of denying North Baja's applications. Higher natural gas prices could potentially adversely influence the regional economy by reducing realized household incomes and business profits (Greenspan 2003). Natural gas prices were recently assessed by the CEC in its *Transmittal of 2005 Energy Report, Range of Need and Policy Recommendations to the California Public Utilities Commission* (CEC 2005b). The CEC's report indicates that since the energy crisis of 2001, natural gas prices have remained high. The CEC attributes this to global crude oil markets, a decreasing rate in finding new natural gas supplies, and events related to weather including Hurricanes

Katrina and Rita. According to the CEC's 2005 *Integrated Energy Policy Report* (CEC 2005a), California currently has little influence over national gas market prices. Thus, even when California's own demand is moderate, in-State prices can spike in response to extreme weather conditions in other parts of the country.

According to the CEC, the cost to deliver natural gas to the West Coast via an LNG project could be well below the market prices that California pays at its borders. Thus, a potential new supply source close to or in California could have the effect of lowering the market price for natural gas in California. However, actual prices to consumers will depend upon contracts signed between suppliers and consumers or their representatives.

Denying the applications may also result in the growing reliance on increased energy efficiency and renewable energies. Energy efficiency has historically been highly effective as a means to reduce demand, and an increase in natural gas efficiency programs could further reduce demand and directly benefit customers (CEC 2005a). This conclusion is corroborated by analyses in two reports recently issued by the American Council for an Energy Efficient Economy (ACEEE). These reports found that increased energy efficiency and the installation of renewable energy generation could reduce the demand for natural gas and result in lower natural gas prices (Elliot et al. 2003, Elliot and Shipley 2005).

California in particular has made significant efforts to develop and implement conservation and efficiency measures to reduce the use of natural gas and other fossil fuels and has strongly promoted the development of renewable energies, which are required to provide 20 percent of the State's energy needs by 2017. One of these programs provides funding for emerging technologies such as photovoltaic (direct conversion of sunlight to electricity), solar thermal electric (the conversion of sunlight to heat and its concentration and use to power a generator to produce electricity), fuel cell (the conversion of hydrogen or hydrogen rich gases into electricity by a direct chemical process), and small wind turbines (small electricity-producing, wind-driven generating systems with a rated output of 50 kilowatts or less). Another program, the Geothermal Program, promotes the research, development, demonstration, and commercialization of California's enormous earth heat energy sources. Thus, it seems likely that additional conservation measures and renewable energy development, but only above the levels deemed feasible now and in the foreseeable future (CEC 2005a), could have some effect on the demand for natural gas.

However, it seems unlikely based on energy demand projections that either increased conservation or increased development of renewable energies could reliably replace the need for natural gas or provide sufficient energy to keep pace with demand at this time. Work by the ACEEE and the CEC seems to support this conclusion. The ACEEE report, for example, recognized that energy efficiency and renewable energy are not the only policy solutions required to address the future natural gas needs of the country and that additional sources of natural gas will be required from either domestic sources or through the importation of gas in the form of LNG (Elliot et al. 2003).

Denying North Baja's applications and the continuing high cost of natural gas could force potential natural gas customers to seek regulatory approval to use other forms of energy and increase the use of other fossil fuels. The effect of high natural gas prices on the demand for other fuels was noted in the Energy Information Administration's (EIA) *Annual Energy Outlook 2004 Report*. According to the EIA, the projections for the national growth of total coal consumption increased 0.3 percent from 2003 to 2004, primarily due to higher natural gas prices (EIA 2004).

The use of other fossil fuels instead of natural gas could increase emissions of regulated pollutants (e.g., NO_x, sulfur dioxide [SO₂], particulate matter having an aerodynamic diameter of 10 microns or less [PM₁₀], particulate matter having an aerodynamic diameter equal to or less than 2.5 microns or less [PM_{2.5}]).

[PM_{2.5}) or unregulated greenhouse gases (e.g., carbon dioxide [CO₂]). Compared to other fossil fuels such as coal or oil, natural gas is a relatively clean and efficient fuel. Given that there are emissions associated with producing, processing, transmitting, and distributing natural gas and other fossil fuels, it is difficult to exactly quantify the impact of denying the Project on local and regional air quality. However, credible estimates of air emissions can be developed based upon reasonable assumptions regarding burning natural gas delivered by the Project compared to burning fossil fuels that would likely be utilized if the gas from the Project were not available.

Table 3.2.1-1 lists the emissions that would result from the combustion of approximately 2.7 billion standard cubic feet per day (Bscfd) of natural gas in southern California markets and the corresponding emissions that would result if an equivalent amount of energy were generated using fuel oil or coal in lieu of natural gas (inside or outside of California). It is clear from the table that the use of either fuel oil or coal would increase emissions significantly. To comply with current air emission regulations, emission control technologies could be required that could limit the economic viability and/or affect the location of any new oil- or coal-fired facility. For example, it is conceivable that California's demand for electricity would increasingly be met by oil- or coal-fired facilities outside of California (e.g., Nevada or Mexico) if new sources of natural gas are not developed.

TABLE 3.2.1-1						
Comparison of Air Emissions from Burning Fossil Fuels ^a						
Fossil Fuel	Emission Rate (tons per year)					
	SO ₂	NO _x	PM ₁₀ /PM _{2.5}	CO	CO ₂	C
Natural Gas	297	44,698	3,577	44,401	49,499,999	13,500,000
Fuel Oil	233,936	89,405	5,070	47,088	71,774,999	19,575,000
Coal	625,819	312,911	13,859	9,768	94,049,999	25,650,000
^a The emissions generated by coal, fuel oil, and natural gas were estimated using the most recent Best Available Control Technology (BACT) Analyses found on the U.S. Environmental Protection Agency Reasonably Available Control Technology/BACT/Lowest Achievable Emission Rate Clearinghouse for boilers with heat input ratings between 100 and 250 million British thermal units per hour. The emissions from each fuel source are estimated based on a total annual fuel use of 2.7 billion standard cubic feet per day, 365 days per year. These emissions may be underestimated if natural gas were to be curtailed to power plants rather than industrial boilers. SO ₂ = sulfur dioxide NO _x = nitrogen oxides PM ₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns or less PM _{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns CO = carbon monoxide CO ₂ = carbon dioxide C = carbon						

3.2.2 System Alternatives

System alternatives are alternatives to the proposed action that would make use of other existing, modified, or proposed pipeline systems to meet the stated objectives of the proposed Project. A system alternative would make it unnecessary to construct all or part of the proposed Project, although some modifications or additions to another existing pipeline system may be required to increase its capacity, or another entirely new system may need to be constructed. Such modifications or additions would result in environmental impact; however, the impact could be less than, similar to, or greater than that associated with construction of the proposed Project. The purpose of identifying and evaluating system alternatives is to determine whether potential environmental impacts associated with the construction and operation of the proposed facilities could be avoided or reduced while still allowing the stated basic objectives of the Project to be met.

3.2.2.1 Other Existing Pipeline Systems

Existing pipeline systems currently operating in the Project area were evaluated to determine if they could possibly deliver the proposed volumes of natural gas to the U.S.-Mexico border. Existing interstate pipeline systems deliver about 5.7 Bscfd of natural gas to markets in southern California (EIA 2003). A majority of this natural gas comes from production areas in the Rocky Mountains or central United States via pipeline systems owned by the Mohave Pipeline Company, Kern River Gas Transmission Company, Transwestern Pipeline Company, LLC (Transwestern), and El Paso. The Kern River Pipeline, which connects southern California with the Rocky Mountain supply basin, is operating at or near capacity and is not capable of delivering significant additional gas to southern California without looping at least part of its 926-mile length and adding compression facilities. The Mojave Pipeline Company, Transwestern, and El Paso pipeline systems, in contrast, are not currently operating at capacity much of the time. However, as discussed previously, the gas supply from the basins that supply these pipelines is declining. Additionally, none of these pipeline systems, with the exception of the North Baja system, has a connection with the Mexican natural gas pipeline system. Thus, these companies would have to build new pipelines to connect to Mexican LNG-source supplies, which none have proposed to do. For these reasons, no further consideration was given to these pipeline system alternatives in this EIS/EIR.

The existing natural gas pipelines in the same area that could serve the markets of the proposed facilities include the SDG&E and SoCalGas pipelines. These pipelines are discussed below.

San Diego Gas & Electric Alternative

SDG&E is a major wholesale customer of SoCalGas. The SDG&E system was designed to flow natural gas south from SoCalGas to the San Diego area. For this pipeline to be used to transport LNG-source gas in Mexico, a project proponent could utilize a currently inactive pipeline that runs from the Transportadora de Gas Natural de Baja California (TGN) system near Tijuana, Mexico, north into the United States, and connects with the SDG&E pipeline. This system alternative would involve construction of a receipt lateral from the LNG terminal(s) to the TGN pipeline, modification of the inactive pipeline and the interconnect with the SDG&E pipeline, upgrading of the SDG&E system in order to reverse the flow, and modification of the interconnection between the SDG&E and SoCalGas systems.

Currently, the SDG&E system is at or near capacity on peak days; therefore, facility improvements would be required to accommodate any new natural gas volumes between 300 and 700 MMscfd (Sempra Energy Utilities 2003). To deliver the 2.7 Bscfd volume that could be transported by the proposed Project, it would also be necessary to loop all or part of the 23-mile-long TGN pipeline. Larger volumes would require looping the existing pipeline from Santee to Escondido, as well as from Escondido to Rainbow, with associated environmental impacts. To bring gas north from LNG import terminals in Baja California through San Diego County, an entirely new pipeline would have to be constructed through steep terrain containing sensitive habitats and densely populated and commercial areas. No such pipeline expansion has been proposed. Moreover, the environmental impact of such a pipeline would be at least as great if not greater than the impact of the proposed Project. This alternative would also not serve the needs of the IID. Therefore, this alternative was eliminated from further consideration.

SoCalGas Alternative

Currently, the IID receives natural gas from SoCalGas' existing intrastate pipelines that extend south through the Chocolate Mountains to the Imperial Valley. At present, this system provides neither

the supply diversity (i.e., direct access to LNG-source gas) nor direct access to an interstate pipeline system. In comments on the draft EIS/EIR, SoCalGas and SDG&E stated that their customers would be able to nominate LNG supplies at Blythe and Otay Mesa when supplies from Mexico become available (see Section 1.1). While the SoCalGas Alternative would provide the IID with indirect access to LNG-source gas through the SoCalGas system, it would not provide direct access to LNG supplies nor direct access to an interstate pipeline system, which are objectives of the proposed Project. Therefore, this alternative was eliminated from further consideration.

3.2.2.2 Pipelines From Other Onshore and Offshore LNG Projects Proposed in California

There are several LNG import terminals that have been proposed in southern California. If any of these terminals are built, some combination of new and existing pipelines would be used to provide LNG-source gas to southern California via the existing SoCalGas infrastructure. Table 3.2.2-1 shows LNG import terminals proposed in southern California that have applied for Federal licensing either from the U.S. Coast Guard (offshore) or the FERC (onshore).

TABLE 3.2.2-1 Proposed LNG Import Terminals and Pipelines in California					
Proponent	Project Name	Location/Type	Proposed Capacity in MMscfd (average/peak)	Anticipated In-Service Date ^a	Needed Pipeline Construction
BHP Billiton	Cabrillo Port LNG Deepwater Port Project	Offshore Oxnard, CA/New Facility	800/1,500	2010 ^b	two 21.5-mile-long, 24-inch-diameter offshore pipelines; 14.3-mile-long, 36-inch-diameter pipeline; and 7.7-mile-long, 30-inch-diameter onshore pipeline
North Star Natural Gas	Clearwater Port Project	Offshore Oxnard, CA/Conversion of Oil Platform Grace	800/1,200	2009	12.6-mile-long, 32-inch-diameter offshore pipeline and 12-mile-long, 36-inch-diameter onshore pipeline
SES Terminal LLC	Long Beach LNG Import Project	Long Beach, CA/New Facility	700/800	2010	2.3-mile-long, 36-inch-diameter onshore pipeline and 4.6-mile-long, 10-inch-diameter onshore pipeline
^a All projects are undergoing delays in the environmental review process and the in-service dates, if the projects were approved, potentially would be later.					
^b In April 2007, the CSLC did not certify the final EIS/EIR for the Cabrillo Port LNG Deepwater Port Project and denied a lease for the subsea pipelines across State lands.					
Source: CEC 2004, FERC and POLB 2005.					

Each of these projects, if built, could provide southern California with access to LNG-source gas. However, the purposes of the proposed Project of providing an additional/alternate source of natural gas (LNG-source gas) to the IID and other regions of the southwestern United States would not specifically be met. While it would not be infeasible for SoCalGas to transport gas from these projects to the southwestern United States, none of these terminals has yet to receive regulatory approval; therefore, it is unlikely that any of these projects would be in service before 2010. Furthermore, in April 2007, the CSLC did not certify the final EIS/EIR for the Cabrillo Port LNG Deepwater Port Project and denied a lease for the subsea pipelines across State lands. The proposed Project could allow LNG-source gas to flow into California and southwestern U.S. markets by early 2008. The environmental impacts of the above proposed California LNG projects are not analyzed in this EIS/EIR because such analyses would

duplicate the analyses performed in the EIS/EIRs that have been or are expected to be prepared for the projects.

3.2.3 Route Alternatives

Route alternatives, within the context of the proposed Project, are identified to determine if impacts could be avoided or reduced on environmentally sensitive resources, such as large population centers, scenic areas, and wildlife and natural habitat management areas that would be crossed by the proposed route. While the origin and delivery points of route alternatives are generally the same as for the corresponding segment of a proposed pipeline route, the alternatives could follow significantly different alignments. One route alternative was evaluated for the B-Line, and eight route alternatives were evaluated for the IID Lateral as discussed below.

3.2.3.1 B-Line Route Alternatives

A factor generally considered in the evaluation of route alternatives for a looping project is whether it is possible to install the majority of the proposed pipeline 25 feet from the existing pipeline. The collocation of facilities is generally preferred by land management agencies, land use planners, and other regulatory agencies and has several inherent engineering and environmental advantages. Perhaps the most important of these advantages is that new land disturbance is minimized. By overlapping the construction right-of-way with other previously disturbed existing rights-of-way, the amount of new land disturbance can be reduced significantly. This is particularly important in arid environments where revegetation is slow and evidence of construction often persists for years. Because of these advantages, alternatives that deviate from the existing right-of-way are generally driven by issues such as the engineering impracticality of remaining adjacent to the existing right-of-way, or reducing environmental impact. These advantages also explain why this EIS/EIR does not address an alternative route along the Arizona side of the Colorado River that was suggested during the scoping process. Route alternatives are generally not adopted if they would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

22nd Avenue Alternative

Although not mentioned during the public scoping process for the proposed Project, safety concerns regarding the placement of a large natural gas pipeline near several residences along 18th Avenue were raised during the planning for the A-Line. As discussed in Section 2.2.1, North Baja proposes to install the B-Line within its existing 50-foot-wide permanent right-of-way for the A-Line using a standard 25-foot offset. The 22nd Avenue Alternative was evaluated to avoid potential impacts on residents along 18th Avenue from construction and operation of the B-Line (see Figure 3.2.3-1).

The 22nd Avenue Alternative deviates from North Baja's existing A-Line at MP 14.5, due west of 22nd Avenue. At this point, the route extends due east for approximately 0.8 mile across BLM lands before descending into the Palo Verde Valley and continuing east across open desert and agricultural fields for approximately 1 mile. The alternative then continues east in the roadway of 22nd Avenue for the next 8 miles until reaching Intake Boulevard. The route then turns north for approximately 1 mile, turns east on 20th Avenue for 0.5 mile, and then turns north along the D-10 Canal for approximately 1 mile. The alternative rejoins the proposed B-Line route at MP 3.0 on 18th Avenue. An environmental comparison of the 22nd Avenue Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-1.

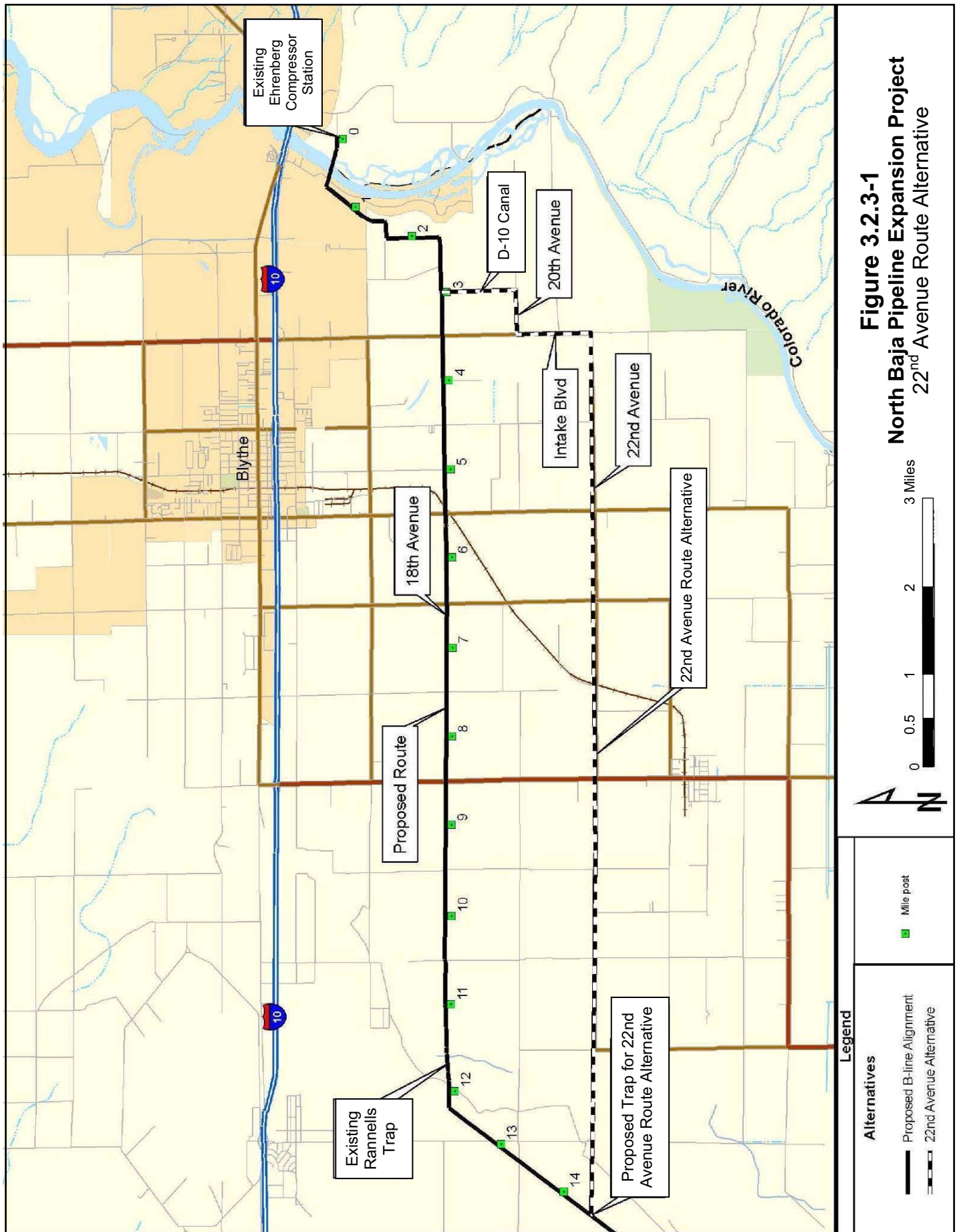


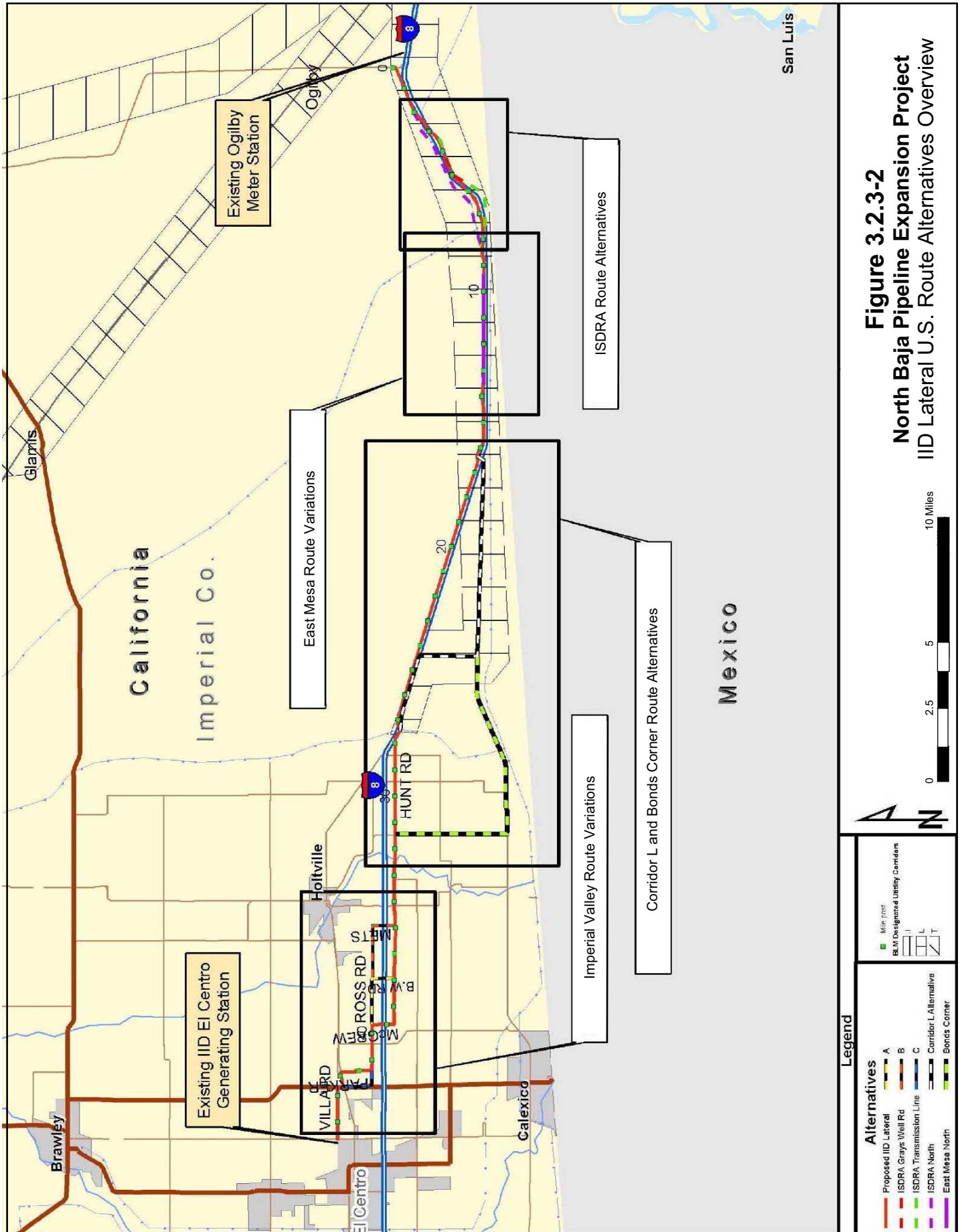
TABLE 3.2.3-1 Environmental Comparison of the 22 nd Avenue Alternative with the Proposed Route MPs 3.0 to 14.5			
Environmental Factor	Unit	22 nd Avenue Alternative	Proposed Route
Length of route	miles	12.4	11.5
Adjacent to existing road or pipeline right-of-way	miles	11.6	11.5
Canals, drains, and ditches crossed	number	26	20
Wetlands crossed	number	3	0
Residences within 100 feet	number	11	17
New aboveground facility sites required	number	2	0

The 22nd Avenue Alternative would be 12.4 miles long compared to the 11.5-mile-long corresponding segment of the proposed route. Both routes would cross several canals and drains, but construction methods would avoid impacts on those features. Construction of the 22nd Avenue Alternative would require new aboveground facility sites for the installation of a valve at the deviation point, as well as a valve and pig launcher and receiver facilities to be located on BLM land on the Palo Verde Mesa. In comparison, the proposed B-Line route would only require the expansion of existing aboveground facility sites to accommodate new valves and pigging facilities. Additionally, the alternative would require 18.3 acres of new right-of-way, while the proposed route would encumber less than 1 acre of land because it would be within the permanent easement of the existing A-Line. Operation and maintenance activities would be more difficult with the 22nd Avenue Alternative due to the 2-mile separation of the A- and B-Lines and associated aboveground sites. The alternative, however, would affect six fewer residences.

Although the alternative would avoid potential impacts on the residents along 18th Avenue, it would introduce similar potential impacts on residents along 22nd Avenue and Intake Boulevard. As discussed above, route alternatives are generally not adopted if they would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages. Furthermore, the advantage gained by temporarily inconveniencing six fewer residences along the 22nd Avenue Alternative is not sufficient to offset the disadvantages of separating the A-Line from the B-Line, requiring new aboveground facility sites on previously undisturbed land, encumbering more land, impacting more agricultural land, and increasing operation and maintenance work. Therefore, the 22nd Avenue Alternative was eliminated from further consideration.

3.2.3.2 IID Lateral Route Alternatives

The process of assessing routes from the existing North Baja system to the IID's El Centro Generating Station involved the consideration of two key components: (1) the stipulations in the BLM's CDCA Plan; and (2) the crossing of the ISDRA. Figure 3.2.3-2 provides an overview of the routes considered in the United States for the IID Lateral. Seven of these routes are considered route alternatives and are discussed below; the remaining four routes are considered route variations and are discussed in Section 3.2.4. Additionally, a route alternative that runs directly from the Gasoducto Bajanorte pipeline in Mexico to the IID's El Centro Generating Station was briefly considered as discussed later in this subsection.



California Desert Conservation Area (CDCA) Crossing Alternatives

The CDCA Plan stipulates that new gas transmission facilities located in multiple-use classes “L,” “M,” and “T” lands should be located within designated utility corridors. Under the Energy Production and Utility Corridors Element of the CDCA Plan, 16 planning corridors have been identified to address utility facilities, including all pipelines with diameters greater than 12 inches.

Utility corridor “L” is a 2-mile-wide corridor that runs east-west through the southeastern portion of the CDCA following the All-American Canal, then turns north for 2 miles to rejoin Interstate 8. The corridor then follows Interstate 8 for approximately 2 miles to the edge of the BLM’s jurisdiction. The proposed route is located within Utility Corridor “L” between MPs 0.0 and 19.0 and MPs 26.0 and 27.5, which is through a portion of the NECO Planning Area and the ISDRA. The section of the proposed route between MPs 19.0 and 26.0 and MPs 27.5 and 27.6, although lying within a corridor occupied by Interstate 8, Evan Hewes Highway, and electric transmission lines, is just north of the designated Utility Corridor “L.” Consequently, these sections of the proposed IID Lateral route, where it crosses BLM land, would require a CDCA Plan amendment.

Two alternative routes were examined that would stay within the designated Utility Corridor “L” for a longer distance than the proposed route: the Corridor L Alternative and the Bonds Corner Alternative (see Figure 3.2.3-3) as discussed below.

Corridor L Alternative – The Corridor L Alternative deviates from the proposed route at MP 16.3 and follows SR 98 just north of the CalTrans right-of-way for about 7.5 miles. The alternative then turns due north and follows just to the east of the existing transmission lines for 2.5 miles before turning northeast and following the southern edge of the CalTrans right-of-way for Interstate 8 for 3.0 miles. The alternative rejoins the proposed route at MP 27.3. An environmental comparison of the Corridor L Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-2.

The Corridor L Alternative would be 2.0 miles longer than the proposed route and would require 15.1 more acres of construction right-of-way. The Corridor L Alternative would also require significantly more permanent right-of-way compared to the proposed route (76.1 acres) because the majority of the proposed route in this area would be installed within the county road right-of-way associated with Evan Hewes Highway. Because it would be located within the road right-of-way, only a 2-foot-wide permanent right-of-way would be retained. Although the Corridor L Alternative would be adjacent to existing road rights-of-way for about 81 percent of the route, the pipeline would not be within the actual road rights-of-way associated with SR 98 and Interstate 8 because CalTrans’ regulations prohibit the installation of high-pressure natural gas pipelines within any State highway right-of-way except by special exception as discussed below for the CalTrans Alternative. In addition, the 2.5 miles where the Corridor L Alternative parallels existing transmission lines would create new ground disturbance in an area where no current ground-disturbing right-of-way is maintained. Overall, the Corridor L Alternative shows substantially more habitat diversity than the proposed route, with three subtypes of creosote scrub and several locations of tamarisk present. The proposed route has only the *Larrea – Ambrosia* habitat type along its entire length. No residences would be within 100 feet of the Corridor L Alternative or the proposed route and no canals or drains would be crossed by either route.

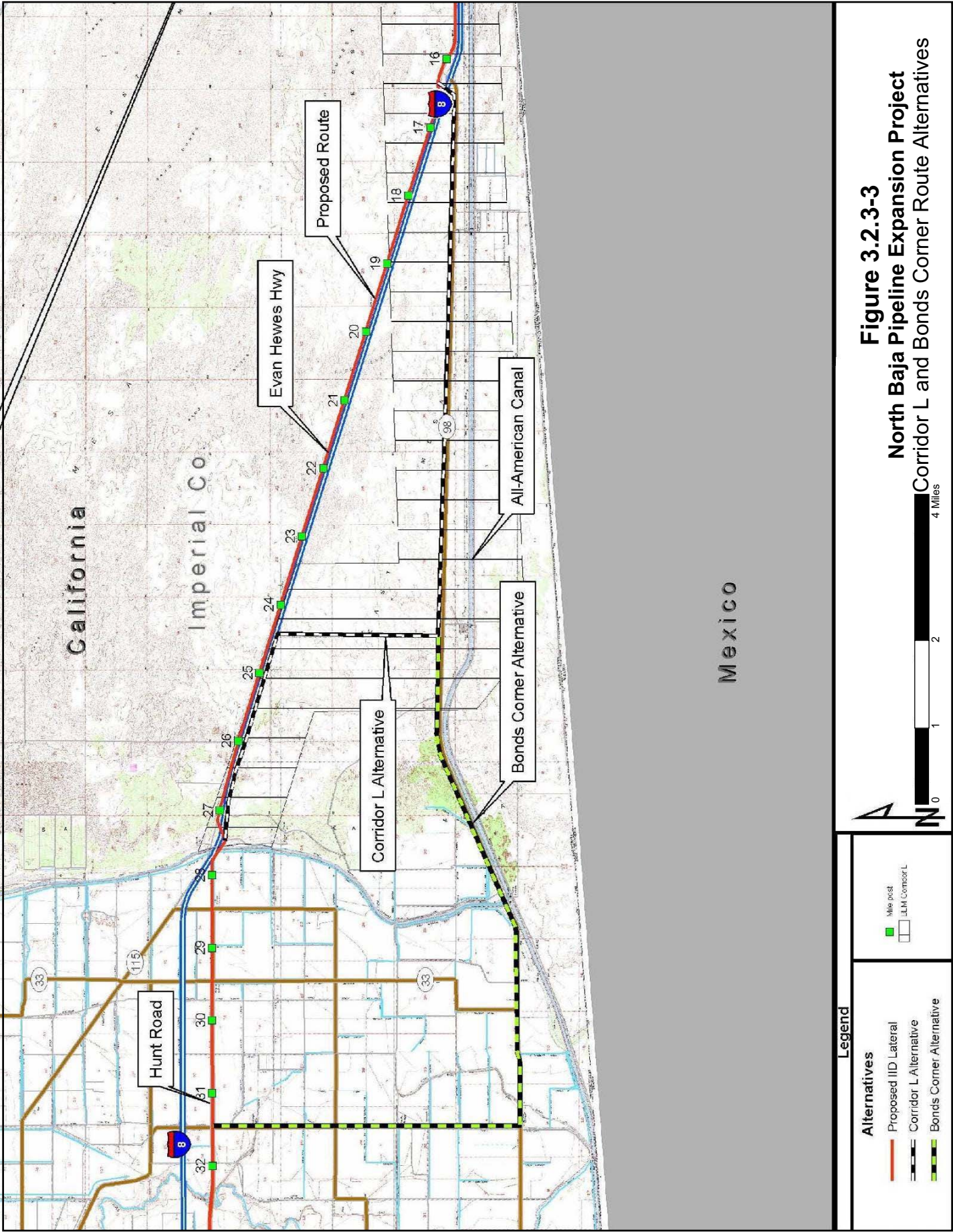


TABLE 3.2.3-2			
Environmental Comparison of the Corridor L Alternative with the Proposed Route MPs 16.3 to 27.3			
Environmental Factor	Unit	Corridor L Alternative	Proposed Route
Length of route	Miles	13.0	11.0
Construction right-of-way ^a	Acres	96.4	81.3
Permanent right-of-way ^b	Acres	78.8	2.7
Adjacent to/within road right-of-way and easements	Miles	10.5	10.8
Vegetation Type			
<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i> alone or with other species	Percentage	48	100
<i>Larrea tridentata</i> – <i>Atriplex canescens</i> and other species	Percentage	19	0
<i>Larrea tridentata</i> with tamarisk and other species	Percentage	34	0
<i>Larrea tridentata</i> with <i>Prosopis</i> or <i>Acacia</i>	Percentage	12	0
Residences within 100 feet	Number	0	0
Canals crossed	Number	0	0
Drains crossed	Number	0	0
Lake Cahuilla Area of Critical Environmental Concern (ACEC) affected	Acres	24.0	0.1
East Mesa ACEC affected	Acres	0.1	7.1
Poor flat-tailed horned lizard habitat affected	Acres	93.7	79.0
Fair flat-tailed horned lizard habitat affected	Acres	2.7	2.2
Known archaeological sites within 400 meters ^c	Number	17	10
BLM-managed land crossed within designated utility corridor	Miles	12.0	3.9
BLM-managed land crossed outside designated utility corridor that would require a CDCA Plan amendment	Miles	0.0	6.6
^a	Based on an approximately 60-foot-wide construction right-of-way.		
^b	Based on a 2-foot-wide permanent right-of-way for the proposed route because the majority of the pipeline in this area would be installed within the county road right-of-way associated with Evan Hewes Highway. Based on a 50-foot-wide permanent right-of-way for the Corridor L Alternative because the pipeline would not be installed within road rights-of-way.		
^c	Based on a literature search.		

The Corridor L Alternative would affect 24.0 acres of the Lake Cahuilla ACEC compared to 0.1 acre for the proposed route. The Lake Cahuilla ACEC is mapped with its eastern edge defined by the electric transmission lines. Because Corridor L is defined as 1 mile on either side of the transmission lines, it overlaps the Lake Cahuilla ACEC by 1 mile for the 2.5 miles between SR 98 and Interstate 8. The Corridor L Alternative would cross the Lake Cahuilla ACEC for the entire 2.5 miles. The Lake Cahuilla ACEC was designated to recognize and protect the significant cultural resources found along the eastern edge of the ancient shoreline of Lake Cahuilla (now largely occupied by the irrigated Imperial Valley).

North Baja's literature review identified 17 cultural resources within a 400-meter-wide Corridor L Alternative records search corridor. These resources consist of 2 isolated finds and 15 archaeological sites. The sites include lithic scatters, ceramic scatters, temporary campsites, a habitation area, and possible cores. The historic sites are refuse and tin can scatters. These sites are not known to have been evaluated and may potentially be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). In comparison, a literature review of the corresponding segment of the proposed route identified 10 cultural resources within a 400-meter-wide

records search corridor. No cultural resources were identified during North Baja's field surveys of a 100-foot-wide corridor for the corresponding segment of the proposed route. Although a quantitative comparison of the Corridor L Alternative with the corresponding segment of the proposed route cannot be made because cultural resources field surveys have not been conducted for the Corridor L Alternative, the Corridor L Alternative's greater impact on previously undisturbed land and 2.5-mile-long crossing of the Lake Cahuilla ACEC elevates the chance of unanticipated significant cultural resources discovery and disturbance.

The proposed route would affect 7.1 acres of the East Mesa ACEC compared to 0.1 acre for the Corridor L Alternative. The East Mesa ACEC was primarily designated for flat-tailed horned lizard protection and management. The proposed route would be within the road right-of-way associated with Evan Hewes Highway for the entire length it crosses the East Mesa ACEC.

North Baja conducted biological resources surveys of the Corridor L Alternative and the corresponding segment of the proposed route to compare the extent of flat-tailed horned lizard habitat available on each route and to determine the presence or absence of this species. About 97 percent of the Corridor L Alternative (93.7 acres) would affect habitat classified as "poor" while 3 percent (2.7 acres) would affect habitat classified as "fair." Similarly, about 97 percent of the proposed route (79.0 acres) would affect habitat classified as "poor" while 3 percent (2.2 acres) would affect habitat classified as "fair." For both routes, the habitat classified as "poor" includes sandy silt substrate with pebbles and a small portion of desert pavement, and habitat classified as "fair" includes partially stabilized sand dunes with some ant presence although the proposed route also crosses a few patches of blow sand.

A disadvantage of the proposed route is that 6.6 miles would be on BLM-managed land outside of a designated utility corridor. Therefore, the proposed route would require an amendment to the CDCA Plan. In contrast, the Corridor L Alternative would be entirely within a designated utility corridor and would not require a CDCA Plan amendment. However, the Corridor L Alternative would be longer and would disturb more land during construction compared to the proposed route. The alternative would also require significantly more permanent right-of-way compared to the proposed route because of its location adjacent to but not within road rights-of-way. The vegetation that would be disturbed along the Corridor L Alternative is also more diverse than the vegetation that would be affected by the proposed route. It also appears that the Corridor L Alternative could affect more archaeological sites compared to the proposed route. For these reasons, the Agency Staffs believe the advantage of being within a designated utility corridor is not sufficient to offset the disadvantages of the greater amount of land disturbance and permanent right-of-way required for the Corridor L Alternative and potentially greater impact on vegetation and cultural resources. Therefore, the Corridor L Alternative was eliminated from further consideration.

Bonds Corner Alternative – The Bonds Corner Alternative deviates from the proposed route at MP 16.3 and follows the same route as the Corridor L Alternative for the first 7.5 miles (see Figure 3.2.3-3). The Bonds Corner Alternative then continues west along SR 98 and the All-American Canal. The alternative would cross the East Highline Canal (using the HDD method) and continue to the west for approximately 3 miles across the Imperial Valley until turning north and following Bonds Corner Road for approximately 5.5 miles. The alternative rejoins the proposed route at MP 31.5. An environmental comparison of the Bonds Corner Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-3.